Application No.: 10/697,014

IBM Ref. No.: YOR920030204US1
CBLH Docket No.: 20140-00305-US1

REMARKS

Claims 9, 10, 13–29 and 31-35 are now in the application. Claims 9, 10, and 31-35 are directed to the elected invention. Claims 13–29 are directed to the non-elected invention and may be canceled by the Examiner upon the allowance directed to the elected invention.

Claims 9, 10 and 31-35 were rejected under 35 USC 103(a) as being unpatentable over U.S. Patent 2,196,307 to Hensel in view of U.S. Patent 4,775,511 to Kono or U.S. Patent 6,412,628 to Tramposch or U.S. Patent 5,023,144 to Yamamoto. The cited references do not render obvious the above claims.

Hensel does not suggest the invention as defined in the above claims since, among other things, Hensel fails to suggest an electronic structure that comprises a dielectric layer having a substantially planar upper surface and having a pattern of recesses therein, and an alloy being located in recesses. Moreover, Hensel fails to suggest forming an oxide layer of the alloying metal on the recited alloy.

Kono was relied on for teaching the formation of a film of stable Be-oxide on the surface of silver alloys to prevent corrosion/tarnishing. Kono does not overcome the above discussed deficiencies of Hensel with respect to rendering unpatentable the above claims since, among other things, Kono fails to even remotely suggest an oxide layer of about 1 to about 10 nanometers as recited in the claims. As discussed in the present specification, providing a relatively thin, e.g., about 2 to about 10 nanometers, oxide layer, significant capacitance increase is not caused by the layer. See page 6, lines 9–13 of the specification. Moreover, nothing in Kono would suggest employing a thin layer. Furthermore, Kono actually teaches away from the invention of the above claims, since Kono explicitly states that oxides have disadvantages, and therefore, suggests using, instead, certain alloys. For instance at column 1, line 45 et seq. Kono states:

> "However, it was found that main disadvantages of those methods is that accidental scratch will expose the fresh silver surface and therefore initiate the tarnishing process."

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Furthermore, Kono fails to even remotely suggest a structure that comprises a dielectric layer having a substantially planar upper surface and having a pattern of recesses therein, and an alloy being located in recesses.

Tramposch was relied upon for a disclosure that a beryllium oxide layer can be formed on an otherwise easily corroded silver electrical contact in order to prevent or inhibit the formation of tarnish. Tramposch does not overcome the above discussed deficiencies of the above references with respect to rendering unpatentable the above claims since, among other things, Tramposch fails to even remotely suggest an oxide layer of about 1 to about 10 nanometers as recited in the claims. As discussed in the present specification, providing a relatively thin, e.g., about 2 to about 10 nanometers, oxide layer, significant capacitance increase is not caused by the layer. See page 6, lines 9–13 of the specification. Also, the oxide layer typically has excellent heat conductivity. Moreover, nothing in Tramposch would suggest employing a thin layer.

Furthermore, Tramposch actually teaches away from the invention of the above claims, since Tramposch explicitly states that oxides have disadvantages, and therefore, suggests using, instead, flexible absorbent articles. For instance at column 2, lines 1-5 Tramposch states:

> "However, all of these methods have disadvantages. Chemical treatment and polishing gradually remove part of the original metal. Accidental scratches in the film of stable metal or oxides expose the fresh silver or copper surface to attack by hydrogen sulfide."

Furthermore, Tramposch fails to even remotely suggest a structure that comprises a dielectric layer having a substantially planar upper surface and having a pattern of recesses therein, and an alloy being located in recesses.

Yamamoto was relied upon for teaching that an oxidized film of (BeO) forms easily for Ag alloys containing small amounts of Be. Yamamoto does not overcome the above discussed deficiencies of the above references with respect to rendering unpatentable the above claims since, among other things, Yamamoto teaches away from employing an alloy of Ag and Be wherein the amount of Be is about 0.2% to about 5% by weight and fails to even remotely suggest an oxide layer of about 1 to about 10 nanometers as recited in the claims and, in fact,

also teaches away from such a film. For instance, see column 1, line 68 to column 2, line 5 which states:

> "In contrast, if the content exceeds 750 ppm, the conductivity deteriorates abruptly. In addition, since the oxide oxidized film tends to easily form, it is very difficult to carry out spot welding. Furthermore, it becomes difficult to work the foil due to its unduly increased hardness."

The maximum amount of Be suggested by Yamamoto is significantly less that that employed according to the present invention. Using the amounts employed in the present invention would be contrary to and defeat the purposes of Yamamoto.

In addition, Yamamoto is not even concerned with the type of structure that is the subject of the present invention and not concerned with the problems addressed by the present invention. Yamamoto relates to an interconnector for a solar cell employed in satellites that is less susceptible to softening when the solar cell is exposed to temperature cycling. Accordingly, Yamamoto fails to even remotely suggest a structure that comprises a dielectric layer having a substantially planar upper surface and having a pattern of recesses therein, and an alloy being located in recesses.

The cited art is even more remote with respect to claim 31 that recite "consisting essentially of." In reciting "consists essentially of" claim 31 excludes the presence of alloying metals such as lithium as required by Hensel in amounts that would materially change the basic characteristics of the claimed invention. See MPEP 2111.03.

The mere fact that cited art may be modified in the manner suggested in the Office Action does not make this modification obvious, unless the cited art suggest the desirability of the modification. No such suggestion appears in the cited art in this matter. The Examiner's attention in kindly directed to *In re Lee* 61 USPQ2d 1430 (Fed. Cir. 2002) *In re Dembiczak et al.* 50 USPQ2d. 1614 (Fed. Cir. 1999), *In re Gordon*, 221 USPQ 1125 (Fed. Cir. 1984), *In re Laskowski*, 10 USPQ2d. 1397 (Fed. Cir. 1989) and *In re Fritch*, 23, USPQ2d. 1780 (Fed. Cir. 1992).

In Dembiczak et al., supra, the Court at 1617 stated: "Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references. See, e.g., C.R. Bard, Inc., v. M3 Sys., Inc., 157 F.3d. 1340, 1352, 48 USPQ2d. 1225,

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1232 (Fed. Cir. 1998) (describing 'teaching or suggestion motivation [to combine]' as in 'essential evidentiary component of an obviousness holding'), In re Rouffet, 149 F.3d 1350, 1359, 47 USPQ2d. 1453, 1459 (Fed. Cir. 1998) ('the Board must identify specifically...the reasons one of ordinary skill in the art would have been motivated to select the references and combine them');...".

All of the teachings of the prior art must be considered including the negative teachings that lead away from the claimed invention as discussed above. See *In re Mercier*, 185 USPQ 774 (CCPA, 1975). Also, in the present case, the cited art lacks the necessary direction or incentive to those or ordinary skill in the art to render the rejection under 35 USC 103 sustainable. The cited art fails to provide the cited degree of predictability of success of achieving the properties attainable by the present invention needed to sustain a rejection under 35 USC 103. See *Diversitech Corp. v. Century Steps, Inc.* 7 USPQ2d 1315 (Fed. Cir. 1988), *In re Mercier*, 185 USPQ 774 (CCPA 1975) and *In re Naylor*, 152 USPQ 106 (CCPA 1966).

Moreover, the properties of the subject matter and improvements which are inherent in the claimed subject matter and disclosed in the specification are to be considered when evaluating the question of obviousness under 35 USC 103. See *Gillette Co. v. S.C. Johnson & Son, Inc.*, 16 USPQ2d. 1923 (Fed. Cir. 1990), *In re Antonie*, 195, USPQ 6 (CCPA 1977), *In re Estes*, 164 USPQ (CCPA 1970), and *In re Papesch*, 137 USPQ 43 (CCPA 1963).

No property can be ignored in determining patentability and comparing the claimed invention to the cited art. Along these lines, see *In re Papesch*, supra, *In re Burt et al*, 148 USPQ 548 (CCPA 1966), *In re Ward*, 141 USPQ 227 (CCPA 1964), and *In re Cescon*, 177 USPQ 264 (CCPA 1973).

Moreover, the examiner's reliance upon inherency to prop up the rejection is misplaced in that the examiner has combined four separate references and even then fails to show each and every claim recitation such as the thickness of the oxide layer. This thickness is important in avoiding significant increase in the capacitance while achieving the desired benefits from the oxide layer.

In view of the above, reconsideration and allowance are, therefore, respectively solicited.

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In the event that the Examiner believes an interview might serve to advance the prosecution of this application in any way, the undersigned attorney is available at the telephone number noted below.

If any additional fee is due, please charge our Deposit Account No. 22-0185, under Order No. 20140-00305-US1 from which the undersigned is authorized to draw.

Dated: 2-27-06

Respectfully submitted,

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